

PATENT SPECIFICATION

809,146

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COMPLETE SPECIFICATION.

Hollow Needles for Medical Equipment.

We, CAPON HEATON AND CO. LIMITED, of Hazelwell Mills, Hazelwell Road, Stirchley, in the City of Birmingham 30, a British Company, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to hollow needles for medical equipment such, for example, as blood transfusion apparatus and of the kind adapted to be inserted through a bung into a bottle or other container and through which the contents of the container are adapted to flow.

It is known for such needles to be formed of a plastic, such as nylon, but there is then often difficulty in inserting them through solid rubber bungs due to the point of the needle being folded over, and the object of the present invention is to minimise this difficulty.

According to the invention a hollow needle for medical equipment and of the kind specified is formed of plastic and has a steel or other metal reinforcement embedded within its point.

A further feature of the invention may reside in forming the reinforcement as a hollow metal tube through which air can be admitted to, or released from the container.

In the accompanying drawings Figure 1 is a side view of one example of the invention, and Figure 2 is a sectional side view of another example.

In the example of the invention seen in Figure 1 the needle comprises a nylon or other plastic tube 3 having intermediate its ends an integral flange 4 which is adapted to abut against the exterior of a bung into which the needle is inserted. At one end the

tube tapers to conical shape with approximately half the wall cut away to leave a point 3a of semi-circular cross-section extending at one side beyond the entrance to the tube. Within this point 3a is wholly embedded a reinforcement of steel or other metal wire 5. Alternatively (as shown) a part only of the reinforcing wire 5 is embedded in the point 3a, the remainder protruding outwardly to form an extremity of the point for the initial piercing of the bung.

In the example of the invention illustrated in Figure 2 the tube 3 has a cylindrical end portion, but is thickened internally at one side from the point to adjacent the flange 4. Moreover, the end is shaped obliquely so that the thickened side forms the point 3a. Furthermore, the reinforcement 5 is in the form of a small bore metal tube or needle having an obliquely cut end which protrudes from the point 3a. The remainder of the reinforcement 5 is embedded within the thickened wall of the tube 3 from the point 3a to a position adjacent the flange 4 where it is bent to extend laterally into an integral tubular and lateral extension 3b of the tube 3. This extension 3b is adapted to have connected to it another plastic or other tube through which air can be admitted to, or released from a container in which the composite needle is inserted.

WHAT WE CLAIM IS:—

1. A hollow needle of the kind specified for medical equipment formed of plastic and having a steel, or other metal reinforcement embedded within its point.

2. A hollow needle as claimed in Claim 1 in which the reinforcement is a hollow metal tube through which air can be admitted to, or released from the container.

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3. A hollow needle for medical equipment constructed, arranged, and adapted for use substantially as described with reference to

Figure 1, or Figure 2 of the accompanying drawings. 5

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PROVISIONAL SPECIFICATION.

Hollow Needles for Medical Equipment.

We, CAPON HEATON AND CO. LIMITED, of Hazelwell Mills, Hazelwell Road, Stirchley, in the City of Birmingham 30, a British Company, do hereby declare this invention 10 to be described in the following statement:—

This invention relates to hollow needles for medical equipment such, for example, as blood transfusion apparatus and of the kind adapted to be inserted through a bung into a 15 bottle or other container and through which the contents of the container are adapted to flow.

It is known for such needles to be formed of a plastic, such as nylon, but there is then often difficulty in inserting them through 20 solid rubber bungs due to the point of the needle being folded over, and the object of the present invention is to minimise this difficulty.

According to the invention a hollow needle 25 for medical equipment and of the kind specified is formed of plastic and has a steel or other metal reinforcement embedded within its point.

A further feature of the invention may 30 reside in forming the reinforcement as a hollow metal tube through which air can be admitted to, or released from the container.

In an example of the invention the needle 35 comprises a nylon or other plastic tube

having an integral flange intermediate its ends which is adapted to abut against the exterior of a bung into which the needle is inserted. At one end the tube is of conical shape with approximately half the wall cut away to leave a point of semi-circular cross-section extending at one side beyond the entrance to the tube. Within this point is wholly embedded a reinforcement of steel or other metal wire. Alternatively a part only of the reinforcing wire may be embedded in the point of the tube, the remainder protruding outwardly to form an extremity of the point for the initial piercing of the bung. 40

In a modified construction the reinforcement is in the form of a small bore metal tube or needle having an obliquely cut end which forms the extremity of the point of the composite needle. The remainder of this reinforcement is embedded in the wall of the plastic tube from the point to a position at the inner side of the flange, at which point it is bent to extend laterally from the plastic tube, and is adapted for the connection to it of another plastic or other tube through which air can be admitted to or released from a container in which the composite needle is inserted. 45 50 55 60

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809,146 COMPLETE SPECIFICATION

1 SHEET

*This drawing is a reproduction of
the Original on a reduced scale.*

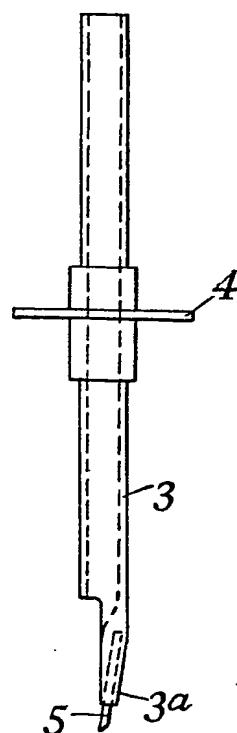


Fig.1

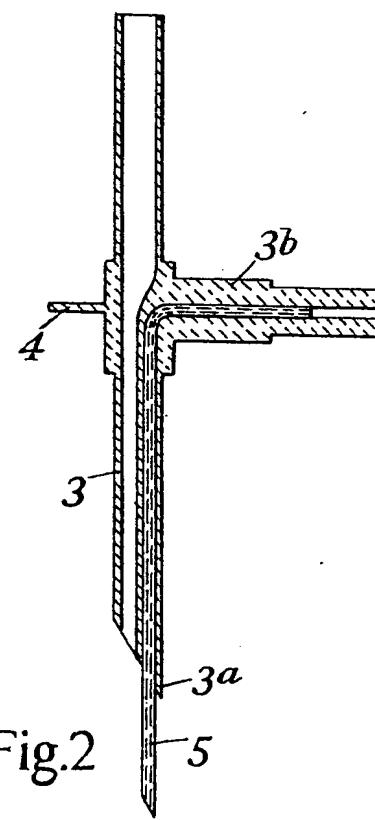


Fig.2

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